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NASJRB WILLOW GROVE
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U S EPA REGION III BUILDING SCOPING SURVEY BUILDINGS 22, 29, 80, 118, 140, 180,
601, AND HANGARS 175, 177, AND 680 NAS WILLOW GROVE PA
5/9/2016
U S EPA REGION III



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

May 9, 2016

Mr. Willington Lin
BRAC Environmental Coordinator
Program Management Office East
4911 South Broad Street
Philadelphia, Pennsylvania 19112-1303

Dear Mr. Lin,

The U.S. Environmental Protection Agency (EPA) has reviewed the *Building Scoping Surveys* dated September 2015, for Buildings 22, 29, 80, 118, 140, 180, 601, and Hangars 175, 177 and 680. EPA agrees with your findings with the exceptions of Buildings 118 and 680. Buildings 118 and 680 are slightly above the dust BPRG 10-4 risk scenario for residential use for both U-238 and Th-232. Based on discussions with the Navy, there is no future use for the buildings however, should there be a future use for these Buildings we find non-residential use acceptable with further characterization.

EPA has summarize the findings in making the comparisons of surface and removable activities for the Willow Grove Naval Air Station to the EPA Building Preliminary Remediation Guideline (BPRG) calculator values. In order to make these comparisons the following assumptions were made, which helped with completing this analysis.

Assumptions to make comparison:

1. Total value of gross measurements are conservatively given to single radionuclide, no partitioning of fractions.
2. Surface activity efficiencies adequate.
3. Measuring U-238 by measuring progeny and assuming secular equilibrium.
4. Comparisons below is of the highest measurement to the most restrictive criteria, resident scenario.

The following are the findings of the comparisons as shown in tables and graphs in the Power Point presentation provided previously.

Surface or total activity

Ra-226: Background for alpha is between 2.5 and 3.2 dpm/100cm². Results slightly above 10-6 BPRG risk values and at or slightly above background.

Sr-90: All values slightly above background, below 10-6 BPRGs. Background is below 10-6 risk.

U-238: Release criteria below 10-4. Values below or slightly above 10-6 BPRG and background.

Th-232: Values below 10-4, slightly above 10-6 value and background. Background is above 10-6 BPRG.

Co-60: Values slightly above background, above 10-6, below 10-4. 10-6 BPRG is below background.

Cs-137: Values slightly above background, above 10-6, below 10-4. 10-6 BPRG is below background.

Removable Activity

R-226: Conservative estimated values are between 10-6 and 10-4 BPRG calculator values.

Sr-90: Conservative estimated values between 10-6 and 10-4 BPRG calculator values.

U-238: Conservative estimated values between 10-6 and 10-4 except Building 80, slightly above 10-4 BPRG residential calculator values.

Th-232: Conservative values slightly above 10-4 BPRG residential calculator values for Buildings 118 and 680.

Co-60: Conservative values value between 10-6 and 10-4 BPRG calculator values.

Cs-137: Conservative values value between 10-6 and 10-4 BPRG calculator values.

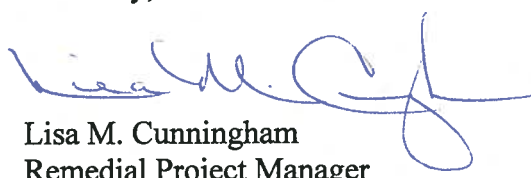
Observation: U-238 and Th-232 have the most conservative of removable activity BPRG calculator values of the Radionuclides of Concern for the site. See Removable Activity Criteria Table below:

	BPRG (risk = 10E-6) Dust (pCi/cm ²)		BPRG (risk = 10E-6) Dust (dpm/100cm ²)		Navy RMP**
	Resident	Indoor Worker	Resident	Indoor Worker	
Ra-226+D	4.56E-04	7.49E-02	1.01E-01	1.66E+01	2.00E+01
Sr-90+D	3.10E-03	3.90E-01	6.88E-01	8.66E+01	2.00E+02
H-3					1.00E+03
U-238*+D	1.58E-03	4.02E-01	3.51E-01	8.92E+01	1.00E+03
Th-232+D	1.44E-04	2.99E-02	3.20E-02	6.64E+00	2.00E+02
Co-60	2.00E-02	1.30E+00	4.44E+00	2.89E+02	1.00E+03
Cs-137+D	8.93E-03	6.67E-01	1.98E+00	1.48E+02	1.00E+03

In discussions with the Navy, there is no future use for the buildings subject to the scoping survey. If there was a future use, the buildings would be below the Indoor Worker 10-6 risk scenario. Buildings 118 and 680 are slightly above the dust BPRG 10-4 risk scenario for residential use for both U-238 and Th-232. Non-residential use of the buildings would be favored if they were to remain for future use at the site, along with further characterization of buildings with contamination above screening guidelines.

Thank you for the opportunity to provide comments on the *Building Scoping Surveys* dated 09/2015 for buildings 22, 29, 80, 118, 140, 180, 601, and Hangars 175, 177 and 680. If you have any questions or comments please feel free to contact me by email or by telephone. My email address is cunningham.lisa@epa.gov and my telephone number is (215)814-3363.

Sincerely,



Lisa M. Cunningham
Remedial Project Manager

cc: Mr. Collin Wade, PADEP
Mr. Andy Frebowitz, TtNUS